

appear to be equivalent to the juvenile or floating leaves observed in the present study.

The plants used in this experiment were the smaller-flowered, more southern species *Alisma subcordatum*. Although not recognized very widely by botanists, the aquatic form of this species probably occurs rather commonly. This experiment has shown that plants of *Alisma* have the ability to produce floating leaves if submersed at any time during their period of development.

Specimens cited: in 1 to 1½ feet of water, old reservoir, Durham, Strafford County, N. H. R. W. Rhoades and A. R. Hodgdon. 16 Oct. 1958 (NH); in 2 feet of water, Hepler's Pond, Madbury, Strafford County, N. H. R. W. Rhoades. 1 Nov. 1959 (N.H.).

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MAZUS REPTANS (SCROPHULARIACEAE) IN MARYLAND. — *Mazus reptans* N. E. Brown, Bot. Mag. t. 8554, 1914, is a freely stoloniferous, mat-forming perennial with flowers half again as large as those of the non-stoloniferous, annual *M. japonicus* (Thunb.) Kuntze. The latter species is the only one hitherto reported as wild in the

United States, first by Small in the second edition of his *Flora of the Southeastern United States* (1913, p. 1365, as *M. rugosus*), from southern Louisiana. It is not mentioned in his *Manual of the Southeastern Flora* (1933). In Pennell's *Monograph of the Scrophulariaceae of Eastern Temperate North America* (Phila. Acad. Monog. 1: 137, 1935), it is cited from Pennsylvania, the District of Columbia, and Oregon as well as Louisiana. More recently Fernald (*Gray's Manual*, 8th ed., p. 1275, 1950) reports it from "Pa. to Mo. and La.; Pacific Slope," and Gleason (*The New Britton & Brown Illustrated Flora* 3: 215, 1952) says "cultivated for ornament and tending to escape in lawns," without locality. Gleason's description of it as "a creeping perennial" and "cultivated for ornament" cannot apply to *M. japonicus*. Dr. Arthur Cronquist informs me that the New York Botanical Garden has a specimen of *M. reptans* "as a lawn weed on the Cornell campus in Ithaca," New York, evidently the basis for Gleason's remarks. It can now be reported that *M. reptans* is genuinely naturalized in MARYLAND, Calvert Co.: moist clay cliffs with *Liquidambar Styraciflua* & *Cryptotaenia canadensis*, Scientists' Cliffs, District No. 1, Frank C. Seymour 16,697, 24 July 1946 (SMU). "Forming a mat in dense shade." Plant past flowering. This species is not treated in Hui-Lin Li's "The genus *Mazus* (Scrophulariaceae)," *Brittonia* 8: 29-38, 1954; his revision actually treats only species known from China. Brown says that the plant comes from the Himalayas. Presumably it is confined to the eastern portion, since the account of the genus in Pennell's *The Scrophulariaceae of the Western Himalayas* (Phila. Acad. Monog. 5: 33-35, 1943) does not include it.

Plants of *M. reptans* received from Rocknoll Nursery, Morrow, Ohio, in late March, 1961 (in bloom on arrival), survived in my yard in Dallas, Texas, to bloom again in the spring of 1962, with more deeply colored and showier corollas than the previous year. They are growing in calcareous clay in shade, and require constant watering during our hot, dry summers. N. E. Brown spoke of it as flowering "almost continuously from early spring to late autumn" under cultivation in England, but that is not the case under Dallas con-

ditions. It is surviving a second summer here (July, 1962), but like last year shows no sign of blooming after the spring season. The potential area which this species may occupy is evidently very great. It should be watched for as an escape elsewhere in the United States and southern Canada.

Mazus japonicus is an annual weed which, like several others, both alien and native (e.g. *Cardamine pennsylvanica*, *Stachys floridana*, *Youngia japonica*), is being spread all through the South in shipments of ornamental shrubs, especially azaleas and camellias. There are specimens in the SMU Herbarium from Alabama (Baldwin Co.), Arkansas (Clark Co.), Florida (Liberty Co.), Louisiana (Lafayette, Ouachita, and St. Tammany parishes; Pennell knew it from East Baton Rouge and Orleans parishes), and Texas (Dallas, Harrison, and Jefferson counties). The Dallas plants seem to have been killed out by the abnormally severe winter of 1961-1962, with repeated severe freezes (down to 17° F.), but further observation will be needed to confirm this. — LLOYD H. SHINNERS, SOUTHERN METHODIST UNIVERSITY, DALLAS 22, TEXAS.

STUDIES IN THE GUTTIFERAE. II.
TAXONOMIC AND DISTRIBUTIONAL
OBSERVATIONS ON NORTH AMERICAN TAXA¹

PRESTON ADAMS²

This contribution is a miscellany of observations which have accumulated during recent studies of the *Guttiferae* in North America. Included are comments on the delimitation of the *Guttiferae*, a re-evaluation of the generic status of *Sanidophyllum* Small, the relegation to synonymy of a few specific epithets, some notes on geographic distribution of

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